

On the Rise of pP in the History of English

With Special Reference to Preposition Stranding

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1. Introduction

In Present-day English (PE), preposition stranding is found in a variety of situations such as *wh*-interrogatives, relative clauses, topicalization, and passives, which is illustrated in (1), respectively.

- (1) a. Which book have they talked about?
- b. This is the book (which/that) they have talked about.
- c. This book, they talked about.
- d. This book has been talked about.

In other languages than English, on the other hand, the possibility of preposition stranding is very limited, as pointed out by a number of studies (van Riemsdijk (1978) among others): in Germanic languages such as Dutch and German, preposition stranding is possible only when the complement is a certain pronoun, while it is impossible in Romance languages such as Italian and French. Furthermore, preposition stranding has seen an interesting development in the history of English (Allen (1980), van Kemenade (1987) among others): preposition stranding was possible in Old English (OE) only when the object is a pronoun, or in relative clauses introduced by the complementizer *þe* "that," while its possibility became greatly expanded in the course of Middle English (ME).

It is argued in this paper that the cross-linguistic variation in the possibility of preposition stranding is attributed to the different structures that prepositional phrases have in each language. It is also claimed that the expansion of the use of preposition stranding in ME is triggered by the structural change of prepositional phrases. This paper is organized as follows. In section 2, through close observation of the data from Germanic languages, I will make clear the condition under which preposition stranding is accepted. Section 3 introduces the model of cyclic linearization advocated by Fox and Pesetsky (2005). In terms of this model, section 4 presents an explanation of the data observed in section 2. Section 5 reviews basic facts about the development of preposition stranding in the history of English, which are

analyzed based on the model of cyclic linearization in section 6. Section 7 is the conclusion of this paper.

2. The Data

In Germanic languages, preposition stranding is possible when the complement is R-pronouns, while it is impossible in the case of other pronouns or full NPs. This contrast is illustrated by Dutch examples in (2) and (3):

(2) Preposition stranding with R-pronouns (possible):

- a. Waar heb je [PP *twaar* op] gerekend? (Dutch)
 where have you on counted
 'What did you count on?'
 b. Ik heb er niet [PP *ter* op] gerekend
 I have there not on counted
 'I did not count on it.' (van Riemsdijk (1978: 135))

(3) Preposition stranding with other pronouns or full NPs (impossible):

- a. *Wie heb je [PP op *twie*] gerekend? (Dutch)
 who have you on counted
 'Who did you count on?'
 b. *Jouw vrienden warden [PP op *tjouw vrienden*] gerekend.
 your friends are on counted
 'Your friends are being counted on.' (van Riemsdijk (1978: 137))

It is noteworthy that R-pronouns come to the left as a complement of a preposition while other pronouns and full NPs come to the right. A similar result is obtained in German.

Moreover, in Dutch, particular prepositions can take full NPs to the left as their complements, and in such cases preposition stranding is accepted, as illustrated in (4):

- (4) a. Je zei dat hij [PP *de boom* in] geklommen is. (Dutch)
 you said thathe the tree in climbed is
 'You said that he climbed in to that tree.'
 b. Welke boom zei je dat hij [PP *tWelke boom* in] is geklommen?
 which tree said you that he in is climbed
 'Which tree did you say that he climbed into?' (Law (2006: 636-637))

According to van Riemsdijk (1978), (4) does not exemplify preposition stranding, because the preposition in incorporates into the verb geklommen in (4a). However, his claim fails since they are not adjacent to each other. Furthermore, relevant facts come from Frisian, one of the Germanic languages.

- (5) a. Wa hast [PP twa mei] praat? (Frisian)
 who have with talked
 'Who did you talked to?'
 b. *Hokker boek hat er [PP fanwegen thokker boek] yn 'e funzenis sitten?
 which book has he because-of in the prson sat
 'Which book was he in prison because of?' (Hoekstra (1995: 97-98))

As shown in (5a), many prepositions also serve as a postposition, that is, they can take complements to their left in Frisian. Preposition stranding is possible with these adpositions. On the other hand, a few prepositions do not have a postpositional counterpart. Those prepositions, as shown in (5b), cannot be stranded.

To sum up, preposition stranding is possible under the condition that the adpositions concerned can be both prepositional and postpositional.

3. Theoretical Framework

3.1. Cyclic Linearization

Fox and Pesetsky (2005) argue that successive-cyclic movement is forced by linearization of syntactic structure that works in the mapping from syntax to phonology. The essence of their proposals is summarized as follows:

- (6) a. Each time Spell-out applies at a phase, it yields a linearization of the phase (i.e. the relative ordering of words is fixed).
 b. Information about linearization, once established at the end of a given phase, is never deleted in the course of derivation. (cf. Fox and Pesetsky (2005: 6))

Let us see how this cyclic linearization model derives the nature of successive-cyclic movement. Consider the successive-cyclic derivation in (7):

- (7) [CP To whom will he [vP t say [CP t that Mary [vP t gave the book t]]]]?
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- a. embedded vP: to whom < gave < the book
 b. embedded CP: to whom < that < Mary < embedded vP (gave)
 c. matrix vP: to whom < say < embedded CP (that)
 d. matrix CP: to whom < will < he < matrix vP (say)

In the embedded vP, to whom moves to [Spec, vP] revising the word order of vP, and Spell-out applies to yield the linearization of its constituents, as shown in (7a). Then, to whom stops off at the embedded [Spec, CP] and the matrix [Spec, vP] before reaching the matrix [Spec, CP], yielding the set of linearization information in (7b-d). This derivation follows the condition in (6) in that Spell-out applies at each phase and information of linearization is not changed. What is important here is that successive-cyclic linearization is forced in

order to avoid an ordering contradiction at each phase. In other words, movement out of a phase does not have to stop off at its specifier unless it causes an ordering contradiction.

Based on the cyclic linearization model, Fox and Pesetsky (2005) analyze Object Shift (OS) in Scandinavian. Consider the following examples:

- (8) a. Jag kysste henne inte [vP tv to] (Swedish)
 I kissed her not
 b. *Jag har henne inte [vP kysst to]
 I have her not kissed (Fox and Pesetsky (2005: 17))

As shown in (8), OS is disallowed unless it is accompanied by verb movement. The linearization information at the phases is summarized in (9):

- (9) a. vP: V (= kysste) < Obj. (= henne)
 CP: Subj. (= Jag) < V (= kysste) < Adv. (= inte) < Obj. (= henne)
 b. vP: V (= kysst) < Obj. (= henne)
 CP: Subj. (= Jag) < Aux. (= har) < Obj. (= henne) < Adv. (= inte) < V (= kysst)

In OS with verb movement, as shown in (9a), linearization information is kept unchanged during the derivation with V preceding Obj.. By contrast, as shown in (9b), OS with no verb movement yields ordering contradiction in that Obj. follows V in the vP phase but it moves out of the vP phase and precedes Obj., conflicting the condition in (6b). Note that cyclic linearization does not apply to constituents with no phonological content because it is a mechanism working in the mapping between syntax and phonology. Therefore, traces or copies of verbs and objects are not counted as linearization information.

3.2. Anti-locality Constraint

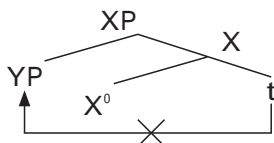
Abels (2003) argues that both Internal Merge (i.e. movement) and External Merge follow the following condition when they operate (cf. Pesetky and Torrego (2006)).

(10) Last Resort

A constituent may only be merged, i.e. base-merged or re-merged, if that leads to the immediate satisfaction of a previously unsatisfiable feature. (Abels (2003: 92))

According to (10), movement cannot occur without any feature checking. This condition in turn leads to the constraint schematized in (11):

(11) Anti-locality Constraint:



(Abels (2003: 12))

This constraint forbids the movement from the complement position to the specifier position within the same projection. Given Last Resort in (10), because merger of the head

X^0 and the complement YP includes a feature checking, the YP cannot be merged twice within the XP (i.e. move to the [Spec, XP]).

Anti-locality Constraint is empirically supported by the facts from topicalization. Assuming that topicalization undergoes successive-cyclic movement in the same way as wh-movement, it is predicted that TP in the complement position of C cannot be topicalized, because it includes the movement from the complement to the specifier within the same CP. This prediction is borne out by the following examples.

- (12) a. Nobody thought that anything will happen.
 b. [_{CP} That anything will happen], nobody believes.
 c. * [_{TP} Anything will happen], nobody believes [_{CP} t_{TP} that t_{TP}].

(Abels (2003: 116))

One might suspect TP itself to be an unmovable category, so that (12c) fails. However, it is not the case: in raising constructions, TP can be moved, as shown in (13).

- (13) a. How likely [_{TP} to win the race] is John?
 b. How likely t_{TP} is John [_{TP} to win the race]?

(Abels (2003: 121))

4. Preposition Stranding in Germanic Languages

This section offers an explanation for the distribution of preposition stranding in Germanic languages reviewed in section 2. Let us assume here that PP is a domain in which Spell-out applies, following Sabbagh (2007). Then, it can be argued that preposition stranding is ruled out because the derivation causes an ordering contradiction with respect to a preposition and its object. Given that Germanic languages belong to OV languages, the derivation and its linearization information are schematized in (14):

- (14) [_{VP} Obj. [_{VP} [_{PP} P t_{Obj}] V] v]
-

- a. PP: P < Obj.
 b. vP: Obj. < P < V < v

When Spell-out applies at the level of PP, it is established that P precedes Obj., as shown in (14a). Then, at the level of vP, Obj. moves to [Spec, vP] yielding the linearization in which Obj. precedes P, which causes an ordering contradiction. Note that Obj. cannot move to [Spec, PP] to revise the order P-Obj. before Spell-out, as shown in (15), because it leads to violation of the Anti-locality Constraint in (11):

- (15) [_{VP} Obj. [_{VP} [_{PP} t_{Obj} [_{PP} P t_{Obj}] V] v]
-

Now let us turn to the acceptable cases of preposition stranding. We have seen that in section 2 that preposition stranding is possible under the condition that the adpositions con-

cerned can be both prepositional and postpositional.

(16) [_{VP} Obj. [_{VP} [_{PP} t_{Obj.} P] V] v]



- a. PP: Obj. < P
- b. vP: Obj. < P < V < v

When Spell-out applies at the level of PP, it is established that Obj. precedes P, as shown in (16a). Then, at the level of vP, Obj. moves to [Spec, vP], yielding the linearization in which Obj. precedes P, as shown in (16b). Since there is no ordering contradiction in the derivation in (16), preposition stranding is possible.

5. Preposition Stranding in the History of English

As mentioned in section 1, preposition stranding was only possible in certain situations in OE while its possibility became greatly expanded in the course of ME. In this section, we will review historical data of preposition stranding and argue that its historical change is triggered by the structural change of PP.

In OE, a preposition usually preceded its object. However, when the object is a pronoun, this word order could be inverted and preposition stranding was possible, as shown in (17) and (18):

- (17) a. and hi ne dorston him fore gebiddan
and they not dared him for pray
'and they did not dared to pray for him' (Alc. P. XIX. 226 / Allen (1980: 54))
- b. ... ofdradd þæt him Godes yrre on becoman sceolde
afraid that him God's anger on come would
'... afraid that God's anger would come on him'
(Alc. P. XXIII. 118 / Allen (1980: 55))

- (18) a. ealle ðe ðærbinnan wæron
all that there-within were
'all that were within that place' (Oros. p. 200. 16 / Allen (1980: 60))
- b. he ðær wearð from þæm burgwarum in abroden
he there was by the citizens in dragged
'he was dragged in there by citizens'
(Oros, 73, 10 / van Kemenade (1987: 146))

In (17b) and (18b), the personal him and the locative pronoun *þær* are separated from the governing preposition. It is worthy of note that pronouns in OE are similar to R-pronouns in that they can come to the left of a preposition and allow preposition stranding. Moreover, Wende (1915) and Allen (1980) point out an interesting fact.

- (19) Dam folce eode ætforan symle Godes wolcn
the people-DAT went before always God's cloud
'The people, God's cloud always went before'

(Alc. Th. Vol. 2 p. 196.7/Allen (1980: 72))

Preposition stranding by topicalization like (19) was so rare in OE. According to Wende (1915), on the other hand, in particular texts, there were some prepositions which serve as a postposition. In those texts, preposition stranding by topicalization is found even when the object is a full NP.

In OE, preposition stranding was also possible in relative clauses introduced by the complementizer *pe* while it was not in relative clauses introduced by the relative pronoun *se* and those introduced by *se þe*, as illustrated in (20):

- (20) a. *pe* relative clauses:

& het forbærnan pæt gewrit þe hit on awriten was
and ordered burn the writ that it in written was
'and ordered to burn the writ that it was written in'

(Oros, 141, 22 / van Kemenade (1987: 147))

- b. *se* relative clauses:

Tirus & Sidon syndon twa burga, be þam spræc se Halend
Tyros and Sidon are two cities about which spoke the Lord
'Tyros and Sidon are two cities which the Lord spoke about'

(AHP, XVII, 52 / van Kemenade (1987: 149))

- c. *se þe* relative clauses:

on pære readan sæ on pære ðe he besanc to grunde
in the Red Sea in which that he sanc to the bottom
'in the Red Sea, in which he sank to the bottom'

(ASL, XXV, 348 / van Kemenade (1987: 151))

In relative clauses introduced by *se* (*þe*), as shown in (20b, c) pied-piping is obligatory. These examples show that preposition stranding was possible in OE relative clauses unless relative pronouns appeared.

In the course of ME, preposition stranding became possible in a greater variety of contexts, through preposition stranding with pronominal objects like (17) and (18) was no longer available after 1200 (Fischer and van der Wurff (2006: 198)). According to Allen (1980), the first sporadic instances of preposition stranding in *wh*-interrogative clauses and *wh*-relative clauses appeared at the beginning of the thirteenth century, as illustrated in (21) and (22), respectively:

- (21) nuste nan kempe, whæm he sculde slæn on
not-knew no soldier whom he should strike on

'No soldier knew whom he should strike at' (L. Brut 27487 / Allen (1980: 225))

- (22) And getenisse men ben in ebron, quile men mai get wundren onn
and giant men are in Hebron which men may yet wonder at
'And there are gigantic men in Hebron, whom people may still marvel at'

(G & Ex. 3715 / Allen (1980: 226))

In addition, some examples of preposition stranding began to appear in topicalization and passive construction, as illustrated in (23) and (24), respectively:

- (23) Ah ðe gode ich ga aa bisiliche abuten
but the good I go ever busily about
'but I always diligently pursue the good' (St Marg. p. 30. 35 / Allen (1980: 227))

- (24) heo schal beo greatte idollen, leafdiluker leoten of ten a leafdi
she shall be greater honored lady-likier thought of than a lady
of hames
of homes

'she shall be more greatly honored, thought of as more ladylike than a house wife'

(T. A. Wisse p. 58. 7 / Allen (1980: 227))

As observed by Allen (1980) and Kemenade (1987), although preposition stranding in these construction was rare in the thirteenth century, it became more common after the fourteenth century.

6. Analysis

This section attempts to explain the historical development of preposition stranding under the cyclic linearization approach. Let us first consider the derivation of preposition stranding with pronominal objects in (25), where P follows Pron. within PP.

- (25) Preposition stranding with pronominal objects (= (17b), (18b))

[_{vP} Pron. [_{VP} [_{PP} t_{Pron.} P] V] v]

a. PP: Pron. < P

b. vP: Pron. < P < V < v

We can account for this derivation in the same way as that of preposition stranding with R-pronouns in Germanic languages. When Spell-out applies at the level of PP, it is established that Pron. precedes P, as shown in (25a). This linearization information is preserved at the level of vP, where Pron. moves to [Spec, vP]. As a result, this derivation converges without any ordering contradiction. On the other hand, if a full NP moves out of PP, it would cause an ordering contradiction, as shown in (26):

- (26) * Preposition stranding with full NP objects

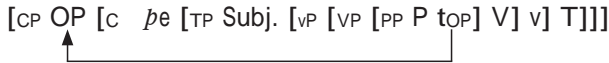


- a. PP: P < NP
- b. vP: NP < P < V < v

Note that the Anti-locality Constraint prevents NP from moving to [Spec, PP] to revise the order P-NP before Spell-out. Therefore, linearization produced at the level of vP does contradict that produced at the level of PP. This is how preposition stranding with full NP objects was excluded in OE.

Now let us turn to preposition stranding in *pe* relative clauses, whose derivation is shown in (27):

(27) Preposition stranding in *pe* relative clauses (= (20a))

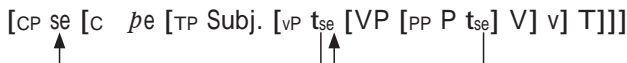


- a. PP: P < OP
- b. vP: P < OP < V < v < T
- c. CP: OP < *pe* < Subj. < P < V < v < T

Since an empty operator (OP) does not have phonological content, it does not enter into cyclic linearization, so it does not cause an ordering contradiction if it moves out of PP without stopping off at the specifiers of Spell-out domains. This is why preposition stranding was possible in *pe* relative clauses in OE.

We are in a position to see how preposition stranding in *se* (*pe*) relative clauses is ruled out.

(28) * Preposition stranding in *se* (*pe*) relative clauses (= (20b, c))



- a. PP: P < se
- b. vP: se < P < V < v
- c. CP: se < *pe* < Subj. < P < V < v < T

As shown in (28), the relative pronouns *se* moves to [Spec, CP] via [Spec, vP]. Due to the Anti-locality Constraint in (11), it cannot stop off at [Spec, PP] to revise the order P-*se* at the level of PP. It is obvious that the relative ordering between *se* and P is contradicted in PP and vP/CP. Therefore, preposition stranding in *se* (*pe*) relative clauses was disallowed in OE.

Finally, we will consider the extension of preposition stranding in ME. According to van Kemenade (1987), P assigned inherent Case in OE while V and P came to assign the same kind of Case in ME, i.e. structural (accusative) Case. I will take this to mean that P assign the accusative Case in the same way as V does from ME onwards: prepositional phrases

have the following structure parallel to v^*P , as schematized in (29):

(29) $[_{pP} p [_{PP} P NP]]$

With this in mind, consider the following derivation of preposition stranding in *wh*-relative clauses, *wh*-interrogative clauses, and topicalization, which became available in OE:

(30) Preposition stranding in *wh*-relative clauses, *wh*-interrogative clauses, and topicalization (see (21), (22), and (23))

$[_{CP} \text{Obj.} [_C C [_{TP} \text{Subj.} [_T T [_{vP} t_{Obj} [_{vP} V [_{VP} V [_{pP} t_{Obj} [_{pP} p [_{PP} P t_{Obj}]]]]]]]]]]]]]$

- a. $pP: \text{Obj} < p < PP (=P)$
- b. $vP: \text{Obj} < v < V < pP$
- c. $CP: \text{Obj} < C < \text{Subj.} < T < vP$

In (30), *Obj.* first moves up to $[\text{Spec}, pP]$ to revise the ordering between *P* and *Obj.*, yielding the linearization in which *Obj.* precedes *P*. It should be noted that this movement does not violate the Anti-locality Constraint in (11) because there are projections of *p*. Then, *Obj.* moves up to $[\text{Spec}, CP]$ via $[\text{Spec}, vP]$, so the derivation converges because there is no ordering contradiction with *Obj.* preceding all the constituents of each Spell-out domain including *P*.

Let us turn to preposition stranding in passives, which also became available in ME. Following Chomsky (2001), this paper assumes that passive (and unaccusative) vP is not a Spell-out domain.

(31) Preposition stranding in passives (see (24))

$[_{CP} C [_{TP} NP [_T T [_{vP} V [_{VP} V [_{pP} t_{NP} [_{pP} p [_{PP} P t_{NP}]]]]]]]]]$

- a. $pP: NP < p < PP (=P)$
- b. $CP: C < NP < T < v < V < pP$

In (31), *NP* first moves up to $[\text{Spec}, pP]$ to revise the ordering between *P* and *NP*, yielding the linearization in which *NP* precedes *P*. Again, this movement does not lead to violation of the Anti-locality Constraint in (11). Then, *NP* moves up to $[\text{Spec}, TP]$, which causes no ordering contradiction with *NP* preceding *P* throughout the derivation.

To sum up, we have seen that the cyclic linearization approach can account for preposition stranding in the history of English, and that the historical change of preposition stranding in ME can be attributed to the rise of pP .

6. Conclusion

This paper has attempted to account for the cross-linguistic variety and the historical change of preposition stranding. The cyclic linearization model allows us to provide a prin-

cipled explanation for the fact that preposition stranding was restricted to particular circumstances in Germanic languages and OE. Moreover, we have shown that the use of preposition stranding was greatly expanded because of the rise of pP, which is triggered by the change of Case assignment by a preposition.

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